PEACE/WILLISTON
FISH & WILDLIFE
COMPENSATION
PROGRAM

BC hydro

BRITISH
COLUMBIA

Peace/williston Fish and Wildlife Compensation Program Fish Program Strategic Plan, 2001 – 2005

Peace/Williston FishWildlife Compensation Program
March 2000

PWFWCP Report No. 209

The Peace/Williston Fish & Wildlife Compensation Program is a cooperative venture of BC Hydro and the provincial fish and wildlife management agencies, supported by funding from BC Hydro. The Program was established to enhance and protect fish and wildlife resources affected by the construction of the W.A.C. Bennett and Peace Canyon dams on the Peace River, and the subsequent creation of the Williston and Dinosaur Reservoirs.

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This report has been approved by the Peace/Williston Fish and Wildlife Compensation Program Fish Technical Committee.

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EXECUTIVE SUMMARY

The Peace/Williston Fish and Wildlife Compensation Program has developed a fish strategic plan that sets the overall direction for the fish component of the Compensation Program. It's vision of naturally diverse and abundant fish and wildlife populations in a healthy ecosystem provide the overall (future) direction. The plan outlines clear and comprehensive objectives and strategies required to meet the goal of conserving fish and their habitat in the program area. The strategic plan is complemented by a five-year operational plan that details the issues and priority projects that will be undertaken to accomplish the primary strategic objectives. Both planning documents will provide the public with a good sense of the programs' future direction.

PEACE/WILLISTON FISH AND WILDLIFE COMPENSATION PROGRAM

FISH PROGRAM STRATEGIC PLAN

INTRODUCTION

Hydroelectric power generation is a resource that British Columbia has developed over the last fifty years to ensure strong economic growth and generate wealth for its residents. The largest hydro development in the province began on the Peace River system in the early 1960s. Formation of the Williston Reservoir in 1968 with completion of the W.A.C. Bennett Dam created an enormous amount of power for the province but also resulted in profound changes to the Peace River system. The approximately 1,736 square km reservoir flooded hundreds of kilometers of riverine habitat that in turn has resulted in significant changes to the aquatic ecosystem. A condition of the water licence is for BC Hydro "to undertake and complete such remedial measures for the protection of fish and wildlife as the comptroller may direct---".

In 1980, the Peace Canyon Dam was completed and BC Hydro agreed to construct and operate a hatchery to provide some fishing opportunities in the newly formed Dinosaur Reservoir. This facility operated from 1981 to 1990 but was closed after evaluation indicated that the stocking program was not economically feasible. Shortly after this closure was the creation of a joint program by BC Hydro and the Ministry of Environment Lands and Parks to improve recreational fishing opportunities in the watershed while protecting and conserving existing fish populations. In 1989, a one-time fund totaling $10M was provided to compensate for fish and wildlife losses. After the Williston Watershed Fisheries Compensation Program was launched (with a $5M budget) it became apparent that a long-term view was required to achieve the Program goal.

The two agencies envisioned a compensation program for fish and wildlife that would exist as long as the dams were operational. In 1990, an informal administrative structure was established by the two agencies to administer the Program. By 1991, it was agreed that a notional fund should be established whereby the interest generated would be used to fund the Program on an annual basis. This culminated in a Memorandum of Understanding being signed by the two agencies in 1992 (Appendix 1) that provides guidelines and operating principles for the Program. The Program was renamed the Peace/Williston Fish and Wildlife Compensation Program (PWFWCP) with an additional $1M added to the fish component (total $6M) to address Dinosaur Reservoir fish concerns.

Fisheries management in the Williston watershed is the responsibility of the Ministry of Environment, Lands and Parks (MELP). BC Hydro produces and delivers electricity in an environmentally and sociably responsible manner. Fish impacts created by dams on the Peace system will be addressed through the efforts of the PWFWCP. The Program operates within the policies of the two partners and is involved in a wide variety of projects including habitat restoration and enhancement, fish monitoring, fish and fish habitat inventories, research and public consultation.

The Fish Program role is largely that of developing compensation projects for the impacts of the W.A.C. Bennett and Peace Canyon hydroelectric projects. As the Program has evolved it has become apparent that a planning, budgeting and evaluation framework is required.

In July 1999, the Steering Committee of the PWFWCP developed a broad strategic plan for the fish and wildlife programs. This plan provides the overall PWFWCP direction while the Fish Strategic Plan specifically focuses on fish and fish habitat.

Program administrative management is guided by a joint Administration Agreement that is scheduled to be signed-off by the two partners in September 2000. This Agreement describes the structure of the Program that includes a Policy, Steering Committee and two Technical Committees (fish and wildlife). The Agreement provides direction on financial, general administration and responsibilities of Program participants.

The PWFWCP Strategic Plan sets the overall direction of the Compensation Program. It's vision of naturally diverse and abundant fish and wildlife populations in a healthy ecosystem provides overall (future) direction. This Fish Strategic Plan is intended to provide a framework for setting Fish Program direction. It outlines clear and comprehensive objectives and strategies required to meet the goal of conserving fish and their habitat. This plan is not intended to detail the extent of project activities that have taken place or are underway. These activities are more appropriately reflected in operational plans that are developed to accomplish the primary strategic objectives.

PWFWCP **MISSION** Statement:

The purpose of the fish and wildlife compensation program is to conserve and enhance fish, wildlife and their habitat in the program area for diverse benefits, now and in the future.

The **GOAL** of the fish component of the PWFWCP is:

To conserve and enhance fish and their habitat in the program area to compensate for hydroelectric development.

In striving to achieve this goal there are a number of underlying principles that guide the Program. These include the principles outlined in the five year (1996-2000) BC Environment Fisheries Strategic Plan related to conservation, sustainable fish management, and the precautionary approach applied to fish management. It also follows the principles supporting BC Hydro's policy of environmental responsibility and accountability to the public. Additionally, there are some guiding principles that are more specific and of particular importance to the Program that all staff felt worth including in this Strategic Plan.

GUIDING PRINCIPLES

The Program Strategic Plan outlines Core Values that reflect the Program's culture and beliefs. The Fish component of the Program also adheres to the following principles:

- employ scientifically credible practices;
- operate within the established policies of the respective partners;
- undertake project evaluation to assess their effectiveness;
- encourage public participation;
- seek partnerships;
- communicate Program activities; and
- undertake off-site compensation if appropriate.

STRATEGIC OBJECTIVES

The Fish Program goal will be attained through four strategic objectives. These objectives, in no order of priority are:

1. Contribute to the Management of Fish and Their Habitat.

The Fish Program recognizes that the provincial fisheries strategy of conserving wild stocks is paramount but the special circumstance of such a disturbed system due to reservoir formation necessitates some deviation from this strategy. Essentially a new ecosystem is evolving and a pragmatic approach has to be adopted if fish and their habitat are to be effectively managed. Such deviations from the primary wild stock strategy must be made on the basis of science-based information. To effectively conserve and manage new and remaining fish populations and their habitat the Program makes recommendations to fisheries managers through a series of strategies including:

Strategies

- undertake habitat improvement activities by:
  - ✓ identifying and implementing acceptable restoration or improvement projects
- recommend harvest regulations by:
  - ✓ monitoring fisheries for use and harvest levels
- conduct life history assessments to:
  - ✓ gain a better understanding of species biology

- conduct population assessments by:
  - ✓ sampling fish populations to estimate population size
- provide information for the protection of habitat by:
  - ✓ identifying key fish habitat sites to the appropriate management agency
  - ✓ understanding changes in the ecosystem and trends in fish populations
- undertake experimental research by:
  - ✓ utilizing expertise in the research community to assist in understanding the aquatic ecosystem
- evaluate project effectiveness by:
  - ✓ scheduling and budgeting for a project evaluation annually

2. Develop a Greater Understanding of Northern Aquatic Ecosystems.

The Williston and Dinosaur reservoirs have disrupted a substantial area of northeastern British Columbia. These newly formed reservoirs are relatively young and still undergoing change. Major rivers and streams have been subjected to inundation, particularly in their lower reaches, and fish have to adapt to an entirely new environment. Knowledge about northern aquatic ecosystem dynamics is limited and a great deal of inventory work is required. Also, it is known that fish growth tends to be much slower and age at maturity often much later compared to similar fish populations in southern BC. These biological limiting factors need to be taken into account in this Program, In order to effectively conserve and manage the Peace/Williston fish populations a "northern perspective" is required in determining fish abundance and their distribution. Strategies associated with this objective include:

Strategies

- implement a systematic coordinated approach to inventory and assessment of fish and fish habitat by:
  - ✓ applying provincial methods and standards for inventory
  - ✓ contributing to an electronic database
- develop opportunities for information exchange by:
  - ✓ conducting and attending relevant workshops
  - ✓ contributing to newsletters, internet website

- provide information for entering into the Provincial Fish Data Warehouse by:
  - ✓ communicating and contributing data collected to the Ministry of Fisheries or Ministry of Environment, Lands and Parks
- evaluate project effectiveness by:
  - ✓ scheduling and budgeting for a project evaluation annually

3. Provide for a Variety of Angling Opportunities.

Recreational fishing is an integral part of northern BC's life style and highly valued by residents of the area. The Program intends to encourage both consumptive and non-consumptive use of the fish resources through two strategies:

Strategies

- provide recreational fishing opportunities through stocking, where appropriate, by:
  - ✓ working cooperatively with the Ministry of Environment Lands and Parks to enhance fishing opportunities through stocking, taking into account wild stock conservation as the priority
  - ✓ utilize native stocks whenever possible for stocking programs
- encourage and recommend a range of angling opportunities and non-consumptive uses by:
  - ✓ developing interpretive programs to encourage public viewing of fish
  - ✓ identifying key viewing sites
  - ✓ producing educational materials that encourage both consumptive and non-consumptive use
- evaluate project effectiveness by:
  - ✓ scheduling and budgeting for a project evaluation annually

4. Promote Public Awareness, Appreciation and Understanding of Northern Aquatic Ecosystems.

Success of the Program in accomplishing its goal is to a large extent dependent upon public knowledge and understanding of the Program and support for it. Strategies to achieve this goal include:

Strategies

- involve First Nations, stakeholders and the public in program activities by:
  - ✓ communicating with all groups
  - ✓ supporting mutually beneficial projects undertaken by First Nations and or the public and private sector
  - ✓ actively soliciting input on issues relevant to the Program
  - ✓ encouraging angling opportunities

- participate in development and implementation of annual public consultation plan by:
  - ✓ participating in public meetings
  - ✓ undertaking priority tasks

- educate the public by:
  - ✓ informing the public about the resources in the Program area
  - ✓ communicating with the private sector regarding value of fish resources in the Program area
  - ✓ developing information brochures specific to the needs of northern BC residents

- provide opportunities for appreciative use of fish by:
  - ✓ identifying and developing sites for public viewing
  - ✓ developing interpretive fact sheets on fish and fish habitat

- evaluate project effectiveness by:
  - ✓ scheduling and budgeting for a project evaluation annually

ISSUES

The issues facing the Program in attempting to accomplish its goal are numerous and complex. These Program issues are addressed through development of more detailed Operational Plans that outline how, where and when activities will be implemented. The operational plans link the Program's activities to the budget process and are task orientated.

GLOSSARY OF TERMS

Aboriginal: is an adjective that refers to First Nation peoples.

Activities: are the works of the Program. They refer to the tasks that are required to implement a strategy and achieve an objective.

Biodiversity: is the full variety of living organisms and biophysical processes that sustain life at three levels: genes, species and ecosystems.

Conservation: is the protection, maintenance, and rehabilitation of native fish and their habitat to ensure ecosystem sustainability and biodiversity.

Ecosystem: is a basic, functional unit consisting of all living organisms in any given area, along with all the non-living physical and chemical factors of their environment, and linked together through nutrient cycling and energy flow. An ecosystem can vary in size, but it always functions as a whole unit, as for example, a forest ecosystem, old-growth ecosystem, or stream ecosystem.

Enhancement: means increasing the capacity of an ecosystem or population to fulfill a particular function or yield a specified product.

Escapement target: is a goal representing the number of fish in a population that survive and live to spawn.

Exotic (or non-indigenous): refers to fish, which do not naturally occur in a defined geographic area, such as a watershed.

Fish Program: refers to the fish component of the Peace/Williston Fish and Wildlife Compensation Program.

Goal: is a broad, all-encompassing statement that outlines the scope of the Program. It identifies the business the Program is in and is long-term in nature.

Habitat: is the area in which a plant or animal naturally lives; part of a broader unit, the ecosystem.

Indigenous (or native): means naturally occurring in a defined geographic area, such as a watershed.

Non-indigenous: means the same as exotic.

Oligotrophication: a gradual reduction in the productivity and fish yield of northern reservoirs.

Peace/Williston Program area is defined as that area upstream of the Peace Canyon Dam to the height of land within the Peace River drainage.

Program: refers to the fish component of the Peace/Williston Fish and Wildlife Compensation Program created through the Memorandum of Understanding (Appendix 1).

Population: is a discrete, although not necessarily isolated, group of interbreeding individuals sometimes referred to as a stock or meta-population, whose size is generally measured in numbers of fish.

Principles: are statements describing the way in which the Program conducts its business. The principles define the general philosophy and ethics of the Program.

Restoration: means to return a degraded ecosystem or population to its original undegraded condition.

Rehabilitation: means to return a degraded or altered ecosystem or population to an undegraded condition.

Riparian: is the land adjacent to the normal high water mark in a stream, river, or lake, extending to the portion of land that is no longer influenced by the presence of the adjacent ponded or channeled water.

Sustainability: means to meet the needs of the present without compromising the ability of future generations to meet their needs.

Sustainable resource management: means to maintain the integrity of natural ecosystems, promote aquatic ecosystem diversity and ensure that harvest or exploitation does not exceed the resource's ability to replenish itself.

Stewardship: is the management of waterbodies including streams, streamside vegetation and watersheds designed to sustain aquatic biodiversity for present and future generations. It is the sense of responsibility without ownership that can apply equally to government agencies, First Nations, private enterprises and other members of the public.

Strategy: outlines what the Program does to achieve its goal. It includes objectives (strategic and operational), strategies, activities, and work plans. The Program strategy applies for five years.

Wild fish: refers to fish that completes their lifecycle through natural processes.

APPENDIX 1

(Memorandum of Understanding)

MEMORANDUM OF UNDERSTANDING
between
BRITISH COLUMBIA HYDRO AND POWER AUTHORITY
and
MINISTRY OF ENVIRONMENT, LANDS AND PARKS

British Columbia Hydro and Power Authority (BCHPA) holds water licenses which, in part, obligate it to undertake programs to address losses to fish, wildlife, and recreation. These programs are undertaken as cooperative initiatives with Ministry of Environment, Lands and Parks (MELP). The following principles have been accepted by both agencies and are intended to serve as guidelines for the drafting and implementation of programs to the satisfaction of the Water Comptroller.

1. Programs are cooperative joint ventures between the two agencies aimed at sustaining and enhancing fish, wildlife and recreation affected by BC Hydro developments.

2. For the purposes of this agreement both agencies acknowledge that the mandate of BCHPA is the supply of electricity and the mandate of MELP is management of fish, wildlife and recreation. All programs must be consistent with the long-term policies and plans of MELP and BCHPA.

3. The aim of these programs is to provide for the preservation of recreational opportunities and to maintain and enhance natural production of fish and wildlife populations, with artificial production as a secondary priority.

4. Consistent with the concept of sustainable development, the intent is to maintain the bio-diversity and recreational opportunities of the area through "in kind" programs. Where this is not possible, alternate programs of replacement, restoration, or substitution will be pursued.

5. As a primary focus, monies will be spent in the area of project influence, in order to maximize the return to fish, wildlife and recreation directly affected by the project.

6. Programs will attempt to improve fish and wildlife populations through enhancement of existing habitat. It is acknowledged that research, planning, monitoring and evaluation will be required to achieve these results, but in all cases must be clearly related to the achievement of overall program objectives.

7. Recognizing that special impacts on aboriginal interests have occurred in the area of project influence, aboriginal involvement in programs will be encouraged.

8. Recognizing the importance of impacts on local interests, there should be provision for local public input to these programs. Further, local public involvement in the delivery of programs as contractors, sub-contractors, or volunteers is encouraged.

9. A communication plan for each program will be developed and any press release will be approved by both agencies.

10. Monies for these programs will be provided by BCHPA. It is intended that such funding will be of a continuing nature requiring capital funds. It is intended that year-to-year operations would come from earnings generated by the funds. It is further intended that the capital funds maintain their long-term real value. Joint review of compensation plans will occur annually. Comprehensive review of the programs' goals, achievements, future plans and financing will occur at least every five (5) years.

11. The level for dispute resolution are as follows:

    a. Program Management
    b. Assistant Deputy Minister, Fisheries Wildlife and Integrated Management, MELP; and Vice-President, Environmental and Corporate Affairs, BCHPA;
    c. Deputy Minister, MELP; and Chairman, BCHPA;
    d. Minister of Environment, Lands and Parks and Minister responsible for BCHPA.

Original signed by Jon O'Riordan	Original signed by
G.R. Armstrong	J.P. Sheehan
Deputy Minister	Senior Vice-President and
Ministry of Environment, Lands and Parks	Chief Financial Officer
	BC Hydro and Power Authority

1999 ADDENDUM TO THE MEMORANDUM OF UNDERSTANDING

1. In statement one, BC Fisheries needs to be acknowledged. The PWFWCP is a cooperative venture between BC Hydro, the Ministry of Fisheries, and the Ministry of Environment, Lands and Parks.

   Amendment: *These programs are undertaken as cooperative initiatives with Provincial Fish and Wildlife Management Agencies.*

2. For statement two, the long-term policies and plans of the partners need to be regularly confirmed. As of December 1999, all programs are

consistent with the long-term policies and plans of the partners. (Due to the general nature of the statements, the BC Hydro mandate is appropriate.)

No amendment.

3. For statement three, the definition and scope of *recreational opportunities* needs to be clarified.

   Amendment: *Recreational opportunities refer to activities related to fish and wildlife and their habitats (fishing, hunting, viewing).*

4. **No amendment.**

5. For statement five, the following statement will clarify the appropriate allocation of monies.

   Amendment: *If the opportunities for efficient use of monies do not exist in the area of project influence, monies may be expended anywhere else in the same river basin (or in adjacent watersheds as per geographic boundary statement). The area "directly affected by the project" refers to the area impacted by the creation of the dams. The geographical boundaries are as defined in the Administrative Agreement.*

6. In statement six, *overall program objectives* refer to the objectives defined in the Strategic Plan.

7. **No amendment.**

8. **No amendment.**

9. In statement nine, the identified communication plan will be based on the five year PWFWCP Communication and Consultation strategy. An annual operation plan will be drafted (by year-end) and forwarded to the Steering Committee for approval during the annual budget meeting. Program communications (Communication and Consultation plans, communication material and press releases) require approval of all partners, as is outlined in the Procedures Manual.

10. **No amendment.**

11. For statement eleven, the preferred process and responsibilities for preventing and resolving disputes needs to be clarified. Include the following amendment.

Amendment: *All decisions are reached by consensus at all levels. Program Manager refers to the Steering Committee. Item b refers to the Policy Committee.*